POSTFACH
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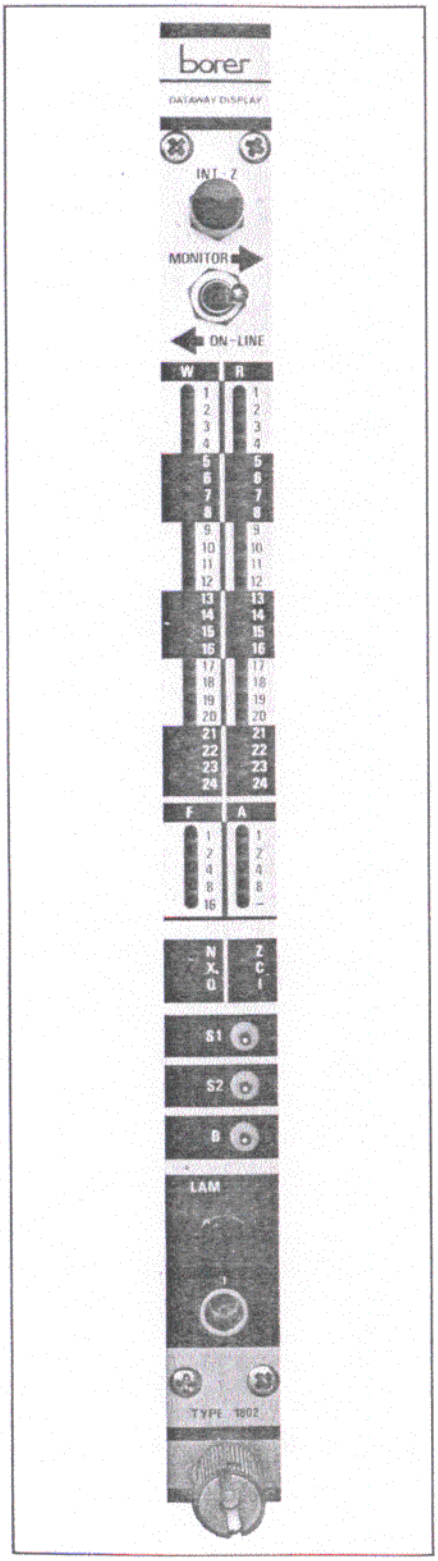
TYPE 1802

Ref: 603.3.005.7.77

DATAWAY DISPLAY
(SERVICE MODULE)



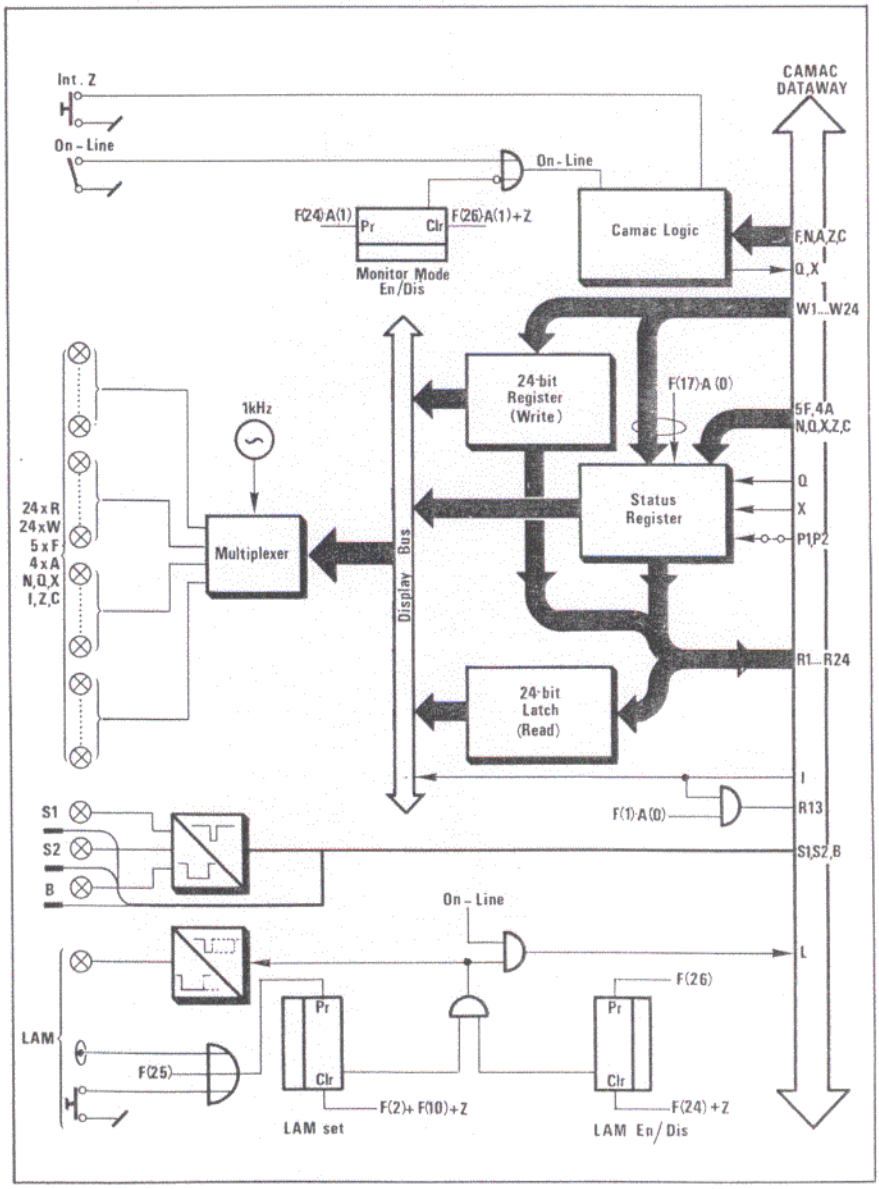
- SHOWS LATEST DATAWAY OPERATION
- MONITOR MODE FINDS HARDWARE FAULTS
- ON-LINE MODE FINDS SYSTEM FAULTS
- SEPARATE DISPLAYS FOR WRITE/READ

The Dataway Display Type 1802 is a universal diagnostic Camac instrument designed for the rapid check-out of Camac modules, crates, controllers, interfaces, programs and complete systems. Dataway signal patterns are both stored in the instrument's memories for subsequent read-back and displayed on its front panel by means of high intensity light-emitting diodes.

The 1802 is a single-width instrument that can either be inserted amongst other modules in a crate as a monitor or in place of a module where a fault is suspected. Two operating modes are possible, namely "Monitor" and "On-Line".

Monitor Mode

In this mode each pattern of dataway signals is strobed into the 1802's memories and displayed irrespective



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TYPE 1802

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of where the module is placed in a crate and without the module being specifically addressed.

If the module is specifically addressed while in the Monitor Mode, it behaves just as though it is in the On-Line Mode for that single Camac cycle only.

A separate Read data latch and a Write data register are provided which are overwritten with F(Ø)..F(7) and F(16)...F(23) commands respectively. Thus when data is written to another module in a crate and then read back again, both bit patterns can be seen side-by-side simultaneously on the 1802.

A Status Register is also built-in which memorizes and displays the latest pattern of F, A, Q and X signals or Z/C commands. If required, patch-pins 1 and 2 may also be connected to the Status Register but their information is not displayed. A dataway Inhibit, I, is displayed directly.

The Strobes S1 and S2 as well as the Busy signal are displayed briefly (about 50ms) while the true signals are brought out to front panel pins for use as triggers by external equipment e.g. an oscilloscope.

On-Line Mode

A flick of a switch or a program command with F(24).A(1) puts the 1802 into the On-Line Mode. As such, the module behaves like a conventional module and only responds when specifically addressed. Data may thus be written into and read-back from the Write memory or the Status Register and the LAM facility can be enabled/disabled or tested.

Each bit in the Status Register can be set from the Write lines with an F(17) command i.e. an N.A.F. pattern can be simulated to assist in checking-out routines.

Interrupt routines can be tested using the 1802's LAM simulation facility. A LAM can be produced (if enabled) manually by a push-button or electrically by the negative-going edge of an externally applied TTL signal or by an F(25).A(Ø) command. The presence of a LAM is displayed for at least 50ms or as long as the cause is maintained.

In either the On-Line or Monitor Mode the 1802 can be initialized by either the dataway Z or by a manually-produced "Internal Z".

This instrument supersedes the earlier version Type 1801

SPECIFICATIONS

Front panel controls

Button: Internal Z
Switch: On-Line Mode/Monitor Mode
Button: Dummy LAM generation

Display

On-Line Mode:	1 LED	Response, Q:	1 LED
		Response, X:	1 LED
Write data:	24 LED's	Clear, C:	1 LED
Read Data:	24 LED's	Initialize, Z:	1 LED
Functions;F1,F2,F4,F8,F16:	5 LED's	Inhibit, I:	1 LED
Sub-addr;A1,A2,A4,A8:	4 LED's	LAM, L:	1 LED*
Station No, N:	1 LED	S1, S2, B:	3 LED's*

* Minimum display duration = 50ms. All other LED's are multiplexed in four groups at a rate of approx. 1kHz.

Input: Dummy LAM, produced by 5V→0V transition, 50ns min duration.

Outputs: S1, S2, B.N: from dataway (buffered)

Dimensions: 1 x Camac norm

Power requirement: 6V, 1A approx.

FUNCTIONS

F(Ø).[A(Ø)] Reads the Write data reg. Gives Q and X

F(1).[A(Ø)] Reads the Status reg. Gives Q and X

F(2).[A(Ø)] Reads and clears the Write data reg. Clears LAM Gives Q and X (R-display not affected)

F(8).[A(Ø)] Tests LAM Gives Q if LAM is set Gives X

F(9).[A(Ø)] Clears the Write data reg. Gives Q and X (R-display not affected)

F(1Ø).[A(Ø)] Clears LAM Gives Q and X

F(16).[A(Ø)] Overwrites the Write data reg. from W1...W24 Gives Q and X

F(17).[A(Ø)] Overwrites the Status reg. from W1..W12,14,15

F(24).[A(Ø)] Disables LAM Gives Q and X

F(24).A(1) Disables Monitor Mode Gives Q and X

F(25).[A(Ø)] Sets LAM Gives Q and X

F(26).[A(Ø)] Enables LAM Gives Q and X

F(26).A(1) Enables Monitor Mode Gives Q and X

F(27).[A(Ø)] Tests LAM enablement Gives Q if LAM enabled Gives X

The sub-addresses marked thus:[ ]only apply if a switch on the p.c.board is in the position "Yes".

With the switch in the position "No", A(Ø) is not decoded so that the 1802 performs like the earlier Type 1801.

COMMANDS

N: Selects module station number. (Used in On-Line Mode only)

Z: Clears all registers
Sets LAM disabled
Sets Monitor Mode enabled

C: Not used, but dispalyed

B: Not used, but displayed and available at the front panel (B.N)

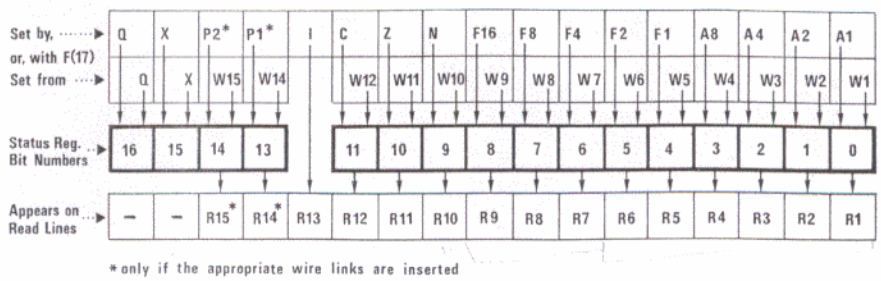
GENERATION

L: (if enabled) LAM set from the front-panel or by F(25):S2. (On-Line Mode only)

Q: Given by N.[F(Ø)+F(1)+F(2)+F(8).LAM+F(9)+F(1Ø)+F(16)+F(17)+F(24)+F(25)+F(26)+F(27).LAM enabled]

X: Given by N.[all above F's]

STATUS REGISTER – Load/Read



* only if the appropriate wire links are inserted